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JONATHAN Y. KANG, ESQ.  
LEE, HONG, DEGERMAN, KANG & SCHMADEKA  
801 S. FIGUEROA STREET, 14TH FLOOR  
LOS ANGELES, CA 90017

EXAMINER

LEVITAN, DMITRY

ART UNIT PAPER NUMBER

2662

DATE MAILED: 05/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/818,525	Applicant(s) YOU ET AL.	
	Examiner Dmitry Levitan	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 3-13, 16-19 and 21-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-13 and 35 is/are allowed.
- 6) ☒ Claim(s) 3-6, 16-19, 21, 22, 24-34, 36 and 37 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Amendment, filed on 04/04/05, has been entered. Claims 3-13, 16-19, 21-37 remain pending.

***Drawings***

1. The drawings were received on 04/04/05. These drawings are approved.
2. In light of the Applicant's amendment the objection to the drawings have been withdrawn.

***Specification***

3. In light of the Applicant's amendment the objection to the specification have been withdrawn.

***Claim Objections***

4. In light of the Applicant's amendment the objection to the claims have been withdrawn.

***Claim Rejections - 35 USC § 112***

5. Claims 19-22 and 24-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 19, step "receiving the signals classified by kinds and classifying them again by kinds" is unclear, because it is not understood as written.

The same limitation of claim 20 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite, in the previous Office action, now is incorporated in claim 19 without any clarification.

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Regarding claims 24 and 30, the text of the claims is so unclear, that the claims cannot be understood and examined as written.

Claims 25-29 and 31-34 were rejected as claims dependent on 24 and 30.

*Claim Rejections - 35 USC § 102*

6. Claims 3, 5, 7, 10, 14-16 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Yi (US 5,978,365).

7. Regarding claims 3, 5 and 16, Yi teaches a hand-off apparatus for a down link communication system (Fig. 5 and 12:2-25) comprising

A first coder for coding an input bit stream and outputting a coded bit stream (encoder 602A on Fig. 6 and 13:57-63);

An interleaver for interleaving the input bit stream and outputting interleaved bit stream (interleaver 601 on Fig. 6 and 13:64-67);

A second coder for coding an interleaved input bit stream and outputting an interleaved bit stream (encoder 602B on Fig. 6 and 13:57-63);

first and second rate matching algorithm processing units for receiving the coded bit stream and interleaved coded bit stream and for generating rate matched bit streams having different patterns by using first and second rate matching algorithms, respectively (puncturers 603 A and B on Fig. 6 and 7, 14:34-42, with Puncturing Patterns shown on Fig. 7); and

first and second multiplexers for outputting the rate matched streams generated by the first and the second rate matching algorithm processing units (Multiplexers 604 and 605 on Fig. 6 and 7, 14:43-64).

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In addition, regarding claim 5, Yi teaches the interleaver of his system as nonessential element (14:10-18).

In addition, regarding claim 16, Yi teaches performing rate matching by using different patterns (puncturing operation uses different patterns 15:1-14).

***Claim Rejections - 35 USC § 103***

8. Claim 19 is rejected (as understood) under 35 U.S.C. 103(a) as being unpatentable over Yi.

Yi substantially teaches the limitations of claim 19.

Regarding claim 19, Yi teaches a method and a mobile receiver (receiver on Fig. 8 and 9 16:58-64), comprising:

A diplexer for receiving radio signal from two base stations (diplexer 802 on Fig. 8 and 16:60-65);

An analog receiver to convert the diplexed signal into an intermediate frequency signal and amplify it (analog receiver 803 on Fig. 8 and 16:64-67, 16:1-5);

A searching unit to search for pilot signal from the two base stations and compute a signal-to-interference ratio of it (searcher receiver 805 on Fig. 8 and 17:21-27 measuring interference spectral density);

A base station controller for discriminating from which base station the signal searched by the searching unit has been transmitted by using the computed value (control processor 816 on Fig. 6 and 17:28-34);

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Rake receivers for inputting the signal transmitted from two base stations to a code combiner according to the base station controller (digital data receivers 804 A and B on Fig. 8 and 14:35-40, disclosed also as RAKE receivers 3:26-30);

A code combiner for converting the two signals in combined data stream (packet/code combiner and iterative decoder 806 on Fig. 8 and 17:35-54); and

a first demultiplexer for classifying the signals from one receiver (demux 901A on Fig. 9 and 18:1-5);

A second demultiplexer for classifying the signals from other receiver (demux 901B on Fig. 9 and 18:1-5) ;

A repeating decoder to decode and output one data stream (packet/code combiner and iterative decoder 806 on Fig. 8 and 17:55-60 producing reliable voice signal sequence 807), and interleaver 601 on Fig. 6.

Yi does not teach using deinterleaver to restore the signals from the second demultiplexer.

Official notice is taken that using deinterleaver to restore the signals is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use deinterleaver to restore the signals from the second demultiplexer to the system of Yi to improve the system operation in noisy environment by randomizing the signal.

9. Claims 4, 6, 17, 18, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi in view of TSG-RAN recommendation (TSG-RAN Working group 1(Radio) meeting #8, 12-15 October 1999, 3GPP).

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Yi teaches all the limitations of parent claims 3, 5 and 16 and coders, first and second matching algorithms and first and second multiplexers of claims 36 and 37 (see rejection of claim 3 above).

Yi does not teach matching algorithm with different initial offset values.

TSG-RAN recommendation teaches matching algorithm with different initial offset values (Introduction).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add matching algorithm with different initial offset values of TSG-RAN recommendation to the system of Yi to improve the system operation in noisy environment.

In addition, regarding claim 18, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add matching algorithm with initial offset values 1 and 2 or 2 and 1 as a design choice, because the values, like 2 and 3 will work in the system as well.

***Allowable Subject Matter***

10. Claims 7-13 and 35 are allowed.

11. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

12. Applicant's arguments filed 04/04/05 have been fully considered but they are not persuasive.

On page 19 of the Response, Applicant argues that the rejection of claim 20 under 35 U.S.C. 112, second paragraph is moot because it was cancelled.

Examiner respectfully disagrees.

The same indefinite limitations of claim 20, "receiving the signals classified by kinds and classifying them again by kinds", was incorporated in the claim 19 making claim 19 indefinite.

On page 20 of the Response, Applicant argues that Yi does not teach rate matching.

Examiner respectfully disagrees.

Yi teaches code puncturing on Fig. 7 and 15:1-67 and code puncturing is well known method of rate matching.

Examiner would like to evidence that with a document TSG-RAN Working group 1(Radio) meeting #4, 19-20 April 1999, 3GPP. The document discusses the puncturing scheme as essential method of rate matching on page 1.

On page 21 of the Response, Applicant argues that TSG-RAN Working group 1(Radio) meeting #8, 12-15 October 1999, 3GPP does not teach using different offset values.

Examiner respectfully disagrees.



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TSG-RAN #8 clearly teaches different initial offsets for uplink and downlink (see formulas for calculating the initial offset on page 1) and discusses the implication of a different offset value of rate matching algorithm.

Examiner therefore believes that the cited references meet all the claims limitations and the rejection is proper.

### *Conclusion*

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dmitry Levitan  
Patent Examiner  
05/04/05.



HASSAN KIZOU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600